ATTRITION: CAUSALITY, EXPLANATION, AND LEVEL OF ANALYSIS

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SUMMARY: A substantial amount of research has been and is being conducted on attrition. The time has come to be more rigorous in the conceptualization and terminology used in this research. The term "attrition" for example has been loosely used. Therefore, the author suggests a basic generic definition which distinguishes it from terms like premature separation. Similarly, "cause of attrition" has been loosely used to describe certain demographic variables which only explain variance and to describe reasons for separation which only represent marks on documents or question responses. The amounts and rates of attrition are aggregate variables. Causal analysis requires these aggregate variables to be investigated within smaller, more meaningful personnel groupings. The author suggests that proper causal analysis and the development of successful counter-attrition programs and procedures require investigations at the individual, organizational, and manpower levels. For example, premature separations may be considered a symptom of causal disorders at the organizational level. Also, manpower attrition policy acts as a constraint with resource consumption impacts on training, discipline, and other arenas. To be effective, cross-national research must pay attention to the foregoing. Finally, the author suggests more effort be directed toward research on building primary group relationships as a long term and pervasive counter-attrition strategy.

INTRODUCTION

The rate of military attrition is higher than had been anticipated for the AVF. The cost, likewise, has been heavy (Comptroller General, 1980). In recognition of the high rate and consequent costs, the military has supported an increased amount of research in attrition over the last few years (cf. Sinaiko, 1977). Much has been learned from the research about AVF patterns of attrition, about individual and organizational variable correlates, and about many issues surrounding premature separation such as how it is perceived by unit managers (Goodstadt and Romanczuk, 1980) and how it affects the separated individuals (Dodd et al., 1975). Some counter-attrition pilot research projects have also been completed with promising results (e.g., Randolph et al., 1980).

Because each prematurely separated service member (SM) represents a substantial organizational and financial loss, special emphasis has been given to the development of methods to screen out recruit candidates who present a high risk of not completing their contractual tour of duty (e.g., Lockman and Lurie, 1980; Albert, 1980; Seeley et al., 1978; Sands, 1977). While this research is still in progress, its current models would still reject too many SMs who would actually finish their tours and accept too many that would not, considering present manpower pools. However, the screening models do identify high risk categories

of recruit candidates who can be monitored closely for needed assistance.

Since the AVF attrition research is rapidly approaching a quasi-paradigmatic stage, it is important to denote where the research needs more rigor and to fill in gaps. In part through literature reviews, scientists have already started this task (e.g., Goodstadt and Yedlin, 1979; Fox, 1979; Hand et al., 1977). This paper is an effort to continue that enterprise, particularly through suggesting refinements in terminology and theoretical conceptualization. Some suggestions for cross-national research and counter-attrition strategies are also included.

BASIC ATTRITION TERMINOLOGY

Some of the basic terms associated with attrition research need to be standardized and used less loosely. Relevant dictionary (Webster's New Collegiate) definitions of attrition are "3: the act of weakening or exhausting by constant harassment or abuse 4: a reduction (as in personnel) chiefly as a result of resignation, retirement, or death." The DOD Directive #1415.7 definition of attrition is "separation prior to completion of the contractual active-duty obligation." These definitions as well as those used or implied by various researchers are different. They therefore reduce the conceptual equivalency of research and, hence, its comparability and cumulation. For research purposes, the following attrition terms and generic definitions are suggested to help clarify and standardize their usage:

1. ATTRITION--the reduction in the number of personnel of a specified category through separation. (the process)
2. AMOUNT OF ATTRITION--the number of personnel of a specified category lost through separation. (the count)
3. RATE OF ATTRITION--the number of personnel of a specified category lost through separation within a specified time period. (the count/time ratio)
4. PERCENTAGE OF ATTRITION--the number of personnel of a specified category lost through separation compared to the total population of which the specified category is a primary part. (the count/ population ratio)

Note that, among other figures, one can compute relative amounts, rates, and percentages; cumulative amounts and percentages; and average rates. For the sake of brevity, these computations are not explicated.

Given the foregoing set of generic attrition terms and definitions, the scientist need only precisely specify the category of personnel with which he is working to effectively perform his computations or present his results. The scientist should be careful, however, to distinguish the use of time for computing rates (e.g., the number of first term enlisted personnel in a given cohort who have not completed their contractual active-duty obligation separated per year) from the use of time to characterize a specified category of personnel (e.g., the number of first term enlisted personnel in a given cohort who separated in their first year of service). The use of the above terminology will lessen the incidence of loose phrases such as "high attrition" (amount, rate, or percentage? personnel category?) and "greater than expected attrition"

(amount, rate, or percentage? personnel category?). There is a need for more rigor in attrition research terms in general and in the specification of the personnel categories.

The amounts, percentages, and rates of attrition are aggregate figures which result from a count of the occurrences of an event, the separation. As such, the figures are dependent upon the group within which the event can occur, the specified category. This fact cannot be overemphasized. The causal factors and policy implications for different specified categories of personnel are likely to be quite different. Therefore it is crucial that the attrition figures are computed for an appropriate and meaningful level of aggregation, i.e., the right specified category.

CAUSALITY

It is a mistake to equate reasons for premature separation, measured either by marks on discharge documents or by verbal or written question responses, with the causes of separation. Each premature separation is an individual, an organizational, and a manpower event. Causation factors exist at all of these levels, and a given separation results from a particularized blend of factors from all of these levels. Presumably, there is a generalized multi-leveled blend of causal factors within each specified category of personnel. The reduction in the amount of premature separations in each category of personnel then should result from a blend of counter-attrition actions and programs addressing factors at all of these levels.

At the manpower level of analysis, one must note that attrition in the personnel category "first term enlisted personnel who have not completed their contractual active-duty obligation" (i.e., premature separation) occurs because of the policy decision to permit that attrition. There would be no serious peacetime attrition issue without that policy decision. This fact, too, cannot be overemphasized. However, if attrition in this category were not permitted or subject to low ceiling levels, the underlying problems would simply be shifted to other arenas such as training, discipline, and individual/organizational adjustment. Manpower issues are highly interrelated. The obvious point in terms of causation is that the policy set level, whether a ceiling, goal, or unrestrained, is a substantial influence on the amount and rate of attrition in this first term enlisted category of personnel.

One example of a manpower policy influencing the amount of attrition is the policy to permit easy separation of low performers or those with adjustment problems at an early stage in their tour (especially during training). This policy is an extension of pre-enlistment screening. The rationale is that it is better to separate problem SMs early while the training and organizational investments are still low. It is assumed those with substantial early difficulties are likely to require separation later. Thus it was thought that by permitting easy early separations, there would be a reduction in the number of separations in a cohort occurring later. Presumably the reduction in later attrition would enhance morale, readiness, and the personnel management function. However, preliminary data seem to indicate that this reduction in later attrition

may not occur, at least not proportionately. Instead, the total cumulative amount of attrition during the first tour of a given enlisted cohort may be increased. Apparently early tour attrition is to a degree independent of later first tour attrition. More research, of course, needs to be done to verify this pattern and assess the impact of the early separation and other policies on attrition.

At the organizational level of analysis, one finds many factors directly or indirectly causing premature separation. For example, the rates and percentages of first term enlisted attrition may be affected by the occupational assignment system (Thomason, 1980), thematic training models (Siebold, 1979), beliefs of unit commanders (Goodstadt and Romanczuk, 1980), and/or work and work group structuring (Cathcart et al., 1978). Other examples are given in the previously cited literature reviews. Yet much research remains to be done on causal factors at this level not only in terms of their influence on attrition but in terms of their impact on, among other things, productivity, unit integration, and readiness.

The term "organizational level" is used herein to encompass all those systems, structures, processes, and personnel that fall hierarchically between manpower policy and the individual SM. This large grouping, in fact, needs to be placed in a coherent conceptual framework in order to determine on which of these organizational parts or features attrition research has been conducted and on which no attrition information is available. Then an assessment must be made as to the needed direction of future research within the framework. It is time to discover and modify those organizational features and parts which cause high rates of attrition. Research must progress beyond the previous emphases on screening out high risk personnel and on teaching problem SMs to adjust to the military.

At the individual level of analysis, one must be careful to distinguish the investigation of individual level causal variables (i.e., characteristics of individuals and their relationships) from the study of why a given individual SM or set of individual SMs were separated. This distinction is crucial because a study of the latter is not attrition research but separation research and is not likely to produce useful information to reduce attrition but only, if possible, to explain given separations (cf., definitions on page 2).

To explicate this distinction, let us consider what a separation is. A separation is a formal legal disentanglement between a military service and a SM with concurrent changes in the legal rights and obligations of the service and the SM. Is is consummated by the authoritative signing and issuing of certain documents. The event has an impact at multiple levels. At the manpower level, it is the loss of a SM to the military for which a replacement must be obtained. At the organizational level, the separation means there has been a break in the relationship structure. Another SM must perform the separated SM's jobs. At the individual level, rights, obligations, and expectations have been irrevocably altered between the discharged SM and others in the organization. For the separated SM, there are substantial changes, for example, in social circumstances, lifestyle, identity structures, and personal outlook.

Let us consider what causes a separation. There is an official "cause" or reason used to describe the basis for the separation. The official reason serves to explain and legitimate the separation but is not necessarily the only, the main, or the real reason(s) in the minds of the parties involved. But a reason is not a cause. The acts surrounding the creation and issuance of discharge documents effecting the separation are caused by a prior act, the authoritative order to do so. This order was given by some commander resulting from the fact that either the commander, the about to be discharged SM, or both wanted the separation to take place (cf., Goldman, 1970). In short, the separation was caused by the fact that someone with the power to effectuate it wanted the separation to occur. Separation research then must of necessity focus on why someone with the power to accomplish the separation wanted it to take place.

To establish what caused a "want" or to explain it is quite difficult. Wants not only are the result of a multitude of influences but are also capable of being explained within numerous inconsistent theoretical frameworks. The latter can range from theories positing a conscious internal locus of control (e.g., rational decision-making) to those positing either an unconscious (e.g., Freudian psychoanalytic theory) or external (e.g., "the devil made me do it") locus of control (cf., Mayhew, 1981). Unfortunately the length constraints on this paper prohibit further discussion of the problems associated with establishing causality or a satisfactory explanation for wants. Suffice it to say that the investigation of the causes or reasons for an individual separation is not likely to produce a solid parsimonious means to reduce the amount of attrition.

At the individual level of analysis, one is better off to conduct research through variables and approaches which are NOT mentalistic (i.e., not wants, attitudes, or reasons). And there is no shortage of promising non-mentalistic variables. Further, many of these individual level variables relate directly to organizational level variables. For example, at the organizational level one can investigate the amount and rate of unit attrition associated with the amount and rate of unit personnel turbulence, the amount of unit overtime, the degree to which a unit is over or understrength, the number of small fill MOS in a unit, the task variety and complexity in a unit, and a unit's physical isolation. At the individual level of analysis, one can investigate the amount and rates of attrition associated with individuals experiencing varying amounts of turbulence, pulling differing amounts of overtime, working at job sites with a shortage or surplus of personnel, occupying small or large fill MOS within a unit, performing typical tasks of less or greater variety and complexity, and operating alone or in groups of various size and integration.

The number of individual level variables causing or associated with attrition is extensive. Again, like organizational level variables, they need to be placed in a coherent conceptual framework. Accurate measures need to be developed (an ounce of measurement is worth a pound of analysis). Meaningful, testable hypotheses need to be deduced. Further, causality needs to be assessed, and that is not an easy job. But without a determination of causality, effective counter-attrition programs will be hard to create.

The amount, rate, and percentage of attrition are variables of a peculiar class for which the determination of causality is elusive. Variables in this class relate to numerous social phenom na (e.g., crime, births and deaths, church attendance). These variables have two important characteristics: 1) they pertain to the occurrence of a specified event within a specified group and 2) the precise causal linkages between the independent variables and the amounts, rates, and percentages of the occurring event are often indirect, probabilistic, and/or unknown. Causality for the class is non-determinative (Bunge, 1963). Consequently, it is difficult to understand exactly why there are changes in the rates and amounts. Similarly it may be difficult to predict whether the event will or will not occur to a specific individual. Yet simultaneously one may be able, with a given set of independent variables, to predict the amount, rate, or percentage with great accuracy or to explain a large percentage of the variance. From the independent variables, one must infer the underlying causal structure. From the inferred causal structure, one can develop actions and programs designed to reduce the number of occurrences of the event, i.e., the separation in the case of attrition. Note that these independent variables will not be status (demographic) or mentalistic variables.

CROSS-NATIONAL ATTRITION RESEARCH

Cross-national (and cross-service) attrition research is becoming increasingly common. Presently it suffers not only from the general looseness in conceptualization and terminology mentioned above but from the limited comparability of different national (or service) terms, personnel categories, policies, and organizational structures. A major task facing the international research community is the establishment of ways to transform these items so that cross-national comparisons can be made. Similarly, standardized data bases need to be established so that the appropriate data will exist to make the comparisons necessary for meaningful cross-national research.

Cross-national (and cross-service) research can be extremely valuable. The country specific descriptions of the amounts and rates of attrition for common personnel categories can provide a better idea of the potential range of variation. The different national analyses can provide new independent information on the apparent and underlying causal structures. Universal patterns may be found. The investigation of attrition in just one country, in other words, is a limited endeavor simply because of the shortage of comparable observations.

One of the biggest potential benefits of cross-national research is in the design and evaluation of counter-attrition research. With different countries trying different sets of counter-attrition actions and programs, a wider variety of them can be tested than would be possible in one country alone. For the most promising actions and programs, equivalent experiments can be set up in multiple countries simultaneously. The results of these experiments will be more generalizable, and the effects of the actions and programs can be more thoroughly assessed. Stated briefly, cross-national (and cross-service) research has the potential to increase substantially the depth and breadth of the assessment of counter-attrition actions and programs within a given time frame.

COUNTER-ATTRITION PROGRAMS

To drastically reduce first term enlisted attrition, a blend of actions and programs will be needed at the manpower policy, organizational, and individual SM levels. The optimal blend is not yet known and is not going to be easy to arrive at. In all likelihood, it will only come over time through a series of successive approximations. Also, the optimal blend may well change as time passes. In any case, the attrition problem exists now, and researchers must address it without waiting for all the answers to come in.

Comment on possible policy modifications is not within the scope of this paper. Obviously, military pay increases, the imposition of attrition ceilings, and the intensive recruiting of less attrition prone personnel would have an impact on the number of enlisted premature separations. But these actions and others would have coincident disadvantages, and all must be weighed within the total policy context (e.g., see Comptroller General, 1980). The research community, however, can and has begun to develop and assess counter-attrition actions and programs at the organizational and individual levels. It is to these levels that the rest of the paper is addressed.

Several candidate research topics were cited as worthy of support at the (Leesburg, Virginia) Conference on First Term Enlisted Attrition (Sinaiko, 1977). Research on some of these topics has been conducted. New useful information has been acquired, and some promising counter-attrition projects have been carried out and evaluated. Yet several conclusions about attrition research are apparent. First, there has been no development of a coherent conceptual framework/plan for the research. Second, not much research involving experimental policies has been undertaken. Third, the majority of the research is concentrated on the front end of the service tour (e.g., on applicant screening and initial SM expectations). Fourth, research has most often focused on ways for the new SM to adjust to military life (e.g., on coping skills). And fifth, research has been conducted usually on a specific narrow topic on a small SM group at a specific stage in the tour with the short term measurement of results. In other words, past and much current research present only small pieces of the puzzle. One of the main set of tasks to be accomplished is to put these pieces of the puzzle together, determine which pieces are still missing, and discard pieces which do not belong.

For every incorrect assumption about SMs and attrition, there is probably an equal and opposite incorrect assumption. For example, underlying a given suggested counter-attrition program may be the Father Flanagan assumption (there is no such thing as a bad boy), the silk purse assumption (you can't make one out of a sow's ear), or the bad apple assumption (a bad one spoils the bunch). Unit commanders make separation decisions based on certain assumptions and self-imposed rules (Goodstadt and Romanczuk, 1980). In developing an array of counter-attrition actions and programs, assumptions and decision rules need to be made explicit. Further, actions and programs based solely on one of these assumptions (e.g., on blame the "victim", blame the military, or blame society rationales) should be avoided.

What counter-attrition actions and programs ought to be developed? The question, of course, is best answered through hindsight. One should note, however, that during training SMs are, for the most part, simply corfined aggregates of individuals. Except in long duration formal schooling, there are not many strong bonds between SMs in training. Thus during-training and post-training actions and programs to reduce attrition may have to be quite different although integrated. For post-training attrition, two general approaches are suggested.

The first general approach to reduce attrition is to build strong, positive primary group relationships between each SM, his co-workers, supervisors, and family (local or back home). This approach would go beyond the building of peer groups or the implementation of a buddy system (see Sinaiko, 1977). In essence, it is a re-emphasis on the communal or institutional nature of military life at the small group level. Research has shown that the isolated, alienated SM is more likely to have difficulties leading to premature separation (e.g., Shils, 1977; Georgoulakis and Bank, 1979). The full integration of a SM with the personal significant others around him can provide a number of benefits. It can help overcome a multitude of major and minor difficulties faced by the first term enlisted SM. In addition to being a long term, pervasive inhibitor of premature separation, strong primary group relationships may well enable the SM to withstand stress on the battlefield or during periods with heavy workloads.

The second general approach to reduce attrition is to keep SMs more informed about what is going on with their units, the service, their mission, and the international political situation. The purpose of this approach is to prevent a sense of anomie or meaninglessness from permeating the lives of the SMs. The typical SM needs to feel he is in on things. Further, before a SM can develop a commitment to something, he needs to know to what he is making a commitment. For example, research has consistently shown that those who do not fully expect to finish their full tour (i.e., low commitment) are less likely to finish it. Some scientists may wish to consider this approach as a matter of building goal congruence. In essence, though, it is a re-emphasis on military service as a service or calling rather than just an occupation or job (cf. Siebold, 1979). Like the first approach, this second approach may act as a long term, pervasive inhibitor of premature separation.

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